



Subject Knowledge Ladder	Design Technology	CAT: STEM
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	Topic	Knowledge Progression
Reception	<u>Food</u>	<ul style="list-style-type: none"><li>• Make and try different tastes and textures</li></ul>
	<u>Structures</u>	<ul style="list-style-type: none"><li>• Construct using a range of tools and materials</li></ul>
Nursery	<u>Food</u>	<ul style="list-style-type: none"><li>• Making simple food products: fruit salad, sandwiches, bread etc.</li><li>• Know the importance for good health of a healthy diet</li></ul>
	<u>Structures</u>	<ul style="list-style-type: none"><li>• Know how to handle equipment and tools effectively</li><li>• Know how to safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li></ul>
Year 1	<u>Food Technology</u>	<ul style="list-style-type: none"><li>• Know where a range of fruit and vegetables come from e.g. farmed or grown at home.</li><li>• Know the basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The eatwell plate.</li><li>• Know and use technical and sensory vocabulary relevant to the project e.g. fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard</li></ul>



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		flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.
	<b><u>Textiles</u></b>	<ul style="list-style-type: none"> <li>• Know how simple 3-D textile products are made, using a template to create two identical shapes.</li> <li>• Know how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</li> <li>• Explore different finishing techniques</li> <li>• Know and use technical vocabulary relevant to the project. E.g. joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish</li> </ul>
	<b><u>Mechanisms</u></b>	<ul style="list-style-type: none"> <li>• Explore and use sliders and levers.</li> <li>• Know that different mechanisms produce different types of movement.</li> <li>• Know and use technical vocabulary relevant to the project, e.g. slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards.</li> </ul>
<b>Year 2</b>	<b><u>Food Technology</u></b>	<ul style="list-style-type: none"> <li>• Know where a range of fruit and vegetables come from e.g. farmed or grown at home.</li> <li>• Know the basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The eatwell plate.</li> <li>• Know and use technical and sensory vocabulary relevant to the project. E.g. fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.</li> </ul>



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	<b><u>Structures</u></b>	<ul style="list-style-type: none"> <li>• Know how to make freestanding structures stronger, stiffer and more stable.</li> <li>• Know and use technical vocabulary relevant to the project. E.g. cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder</li> </ul>
	<b><u>Mechanisms</u></b>	<ul style="list-style-type: none"> <li>• Explore and use wheels, axles and axle holders.</li> <li>• Distinguish between fixed and freely moving axles.</li> <li>• Know and use technical vocabulary relevant to the project. E.g. vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving.</li> </ul>
<b>Year 3</b>	<b><u>Food Technology</u></b>	<ul style="list-style-type: none"> <li>• Know how to use appropriate equipment and utensils to prepare and combine food.</li> <li>• Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> <li>• Know and use relevant technical and sensory vocabulary appropriately. E.g. texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet.</li> </ul>
	<b><u>Textiles</u></b>	<ul style="list-style-type: none"> <li>• Know how to strengthen, stiffen and reinforce existing fabrics.</li> <li>• Know how to securely join two pieces of fabric together.</li> <li>• Know that you need patterns and seam allowances.</li> <li>• Know and use technical vocabulary relevant to the project. E.g. fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance.</li> <li>•</li> </ul>
	<b><u>Mechanisms</u></b>	<ul style="list-style-type: none"> <li>• Know how to use lever and linkage mechanisms.</li> <li>• Distinguish between fixed and loose pivots.</li> <li>• Know and use technical vocabulary relevant to the project. E.g. mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating.</li> </ul>



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<b>Year 4</b>	<b><u>Food Technology</u></b>	<ul style="list-style-type: none"> <li>• Know how to use appropriate equipment and utensils to prepare and combine food.</li> <li>• Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> <li>• Know and use relevant technical and sensory vocabulary appropriately. E.g. texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet.</li> </ul>
	<b><u>Structures</u></b>	<ul style="list-style-type: none"> <li>• Develop and use knowledge of how to construct strong, stiff shell structures.</li> <li>• Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</li> <li>• Know and use technical vocabulary relevant to the project. E.g. shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision.</li> </ul>
	<b><u>Electrical systems</u></b>	<ul style="list-style-type: none"> <li>• Understand and use electrical systems in their products linked to science coverage.</li> <li>• Apply their understanding of computing to program and control their products.</li> <li>• Know and use technical vocabulary relevant to the project. E.g. series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device.</li> </ul>



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<b>Year 5</b>	<b><u>Food technology</u></b>	<ul style="list-style-type: none"> <li>• Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>• Know about seasonality in relation to food products and the source of different food products.</li> <li>• Know and use relevant technical and sensory vocabulary. E.g. ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble.</li> </ul>
	<b><u>Textiles</u></b>	<ul style="list-style-type: none"> <li>• Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</li> <li>• Know fabrics can be strengthened, stiffened and reinforced where appropriate.</li> <li>• Know and use technical vocabulary relevant to the project. E.g. seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings.</li> </ul>
	<b><u>Mechanisms</u></b>	<ul style="list-style-type: none"> <li>• Know that mechanical and electrical systems have an input, process and an output.</li> <li>• Know how gears and pulleys can be used to speed up, slow down or change the direction of movement.</li> <li>• Know and use technical vocabulary relevant to the project. E.g. pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output.</li> </ul>
<b>Year 6</b>	<b><u>Food technology</u></b>	<ul style="list-style-type: none"> <li>• Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>• Know about seasonality in relation to food products and the source of different food products.</li> </ul>



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		<ul style="list-style-type: none"><li>• Know and use relevant technical and sensory vocabulary. E.g. ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble.</li></ul>
	<b><u>Electrical systems</u></b>	<ul style="list-style-type: none"><li>• Understand and use electrical systems in their products linked to science coverage.</li><li>• Apply their understanding of computing to program, monitor and control their products.</li><li>• Know and use technical vocabulary relevant to the project. E.g. reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit.</li></ul>